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ABSTRACT

The implementation of a matrix structure as an alternative to the traditional collegial/bureaucratic form at a college of education in a medium-size state university is described. Matrix organizational structures are differentiated from hierarchical bureaucratic structures by dividing the organization's tasks into functional units across which an array of project and/or product units work. Shifting to a matrix structure may only be a temporary measure as the organization attempts to respond to environmental changes that it should have adapted to incrementally. A new Center for Excellence in Education (CEE) was created at the university, and the dean and department chairs from the old college of education were replaced. There are five functional divisions, each managed by a director: professional programs, field-based programs, educational services, research, and vocational education. The results of changing the organizational structure are analyzed, and projections of the utility of this and other nontraditional organizational forms for future use in higher education institutions are presented. Views of Thomas Peters concerning the matrix organization are also considered. (SW)

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IMPLEMENTATION OF A MATRIX

ORGANIZATIONAL STRUCTURE:

A CASE STUDY

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**IMPLEMENTATION OF A MATRIX ORGANIZATIONAL STRUCTURE:
A CASE STUDY**

ABSTRACT

Alternative organizational structures for colleges within universities are difficult to implement due to tradition, tenure policies and the inherent stability of bureaucratic hierarchies. When the organization's environment has become increasingly dynamic, hostile, complex and differentiated, change in structure may be required to meet the new demands. Such was the case of a college of education in a medium-size state university in the Western United States.

A description of this case with supporting organizational theory constitutes this paper. The rationale for implementing a matrix organizational structure is provided following a discussion of changes in environment. The results of this change are analyzed from a participant/observer point of view. Finally, projections as to the utility of this and other non-traditional organizational forms for future use in higher education institutions are presented.

IMPLEMENTATION OF A MATRIX ORGANIZATIONAL STRUCTURE:
A CASE STUDY

by David M. Whorton

Matrix organizational structures are differentiated from hierarchical bureaucratic structures by dividing the organisation's tasks into functional units across which an array of project and/or product units work. Such structures have been utilized very little in educational organizations even though their use has been widespread and documented in business and industry for two to three decades.

The collegial/hierarchical bureaucratic nature of college or university organization as we know it may be viewed as a matrix form in some ways. Rose, for example, in describing Bradford College, said "Thus, higher institutions eventuate into more or less "matrix" decision structures in which one axis, the 'vertical' one, is exemplified in formally constituted schools and departments with appointed heads responsible to a higher authority, while the other axis, the 'horizontal' one, is expressed in cross-departmental boards, committees and senates, with leaders responsible to the whole body" (1). This paper

will describe a more direct application of the matrix structure to an institution of higher education.

The best structure for an organization depends on the complexity of the organization's business and on the uncertainty of the environment (2). Thus it is assumed that organizational structure is a variable not a constant; and that it can be changed (3). As the organizational environment becomes more uncertain, diverse, hostile and complex, the need for change in organizational structure becomes more evident.

It is recognized, as Peters so clearly points out (4), that in meeting the demands of the environment, organizational structure alterations are not the only variable that must be attended to in solving problems. It is also clear that shifting to a matrix structure may only be a temporary measure as the organization attempts to respond in a giant step to environmental changes which it should have adapted to incrementally in the past. The matrix structure is part of a pattern of evolutionary steps that enable the organization to respond more adequately to the contingencies imposed by the environment.

THE CASE

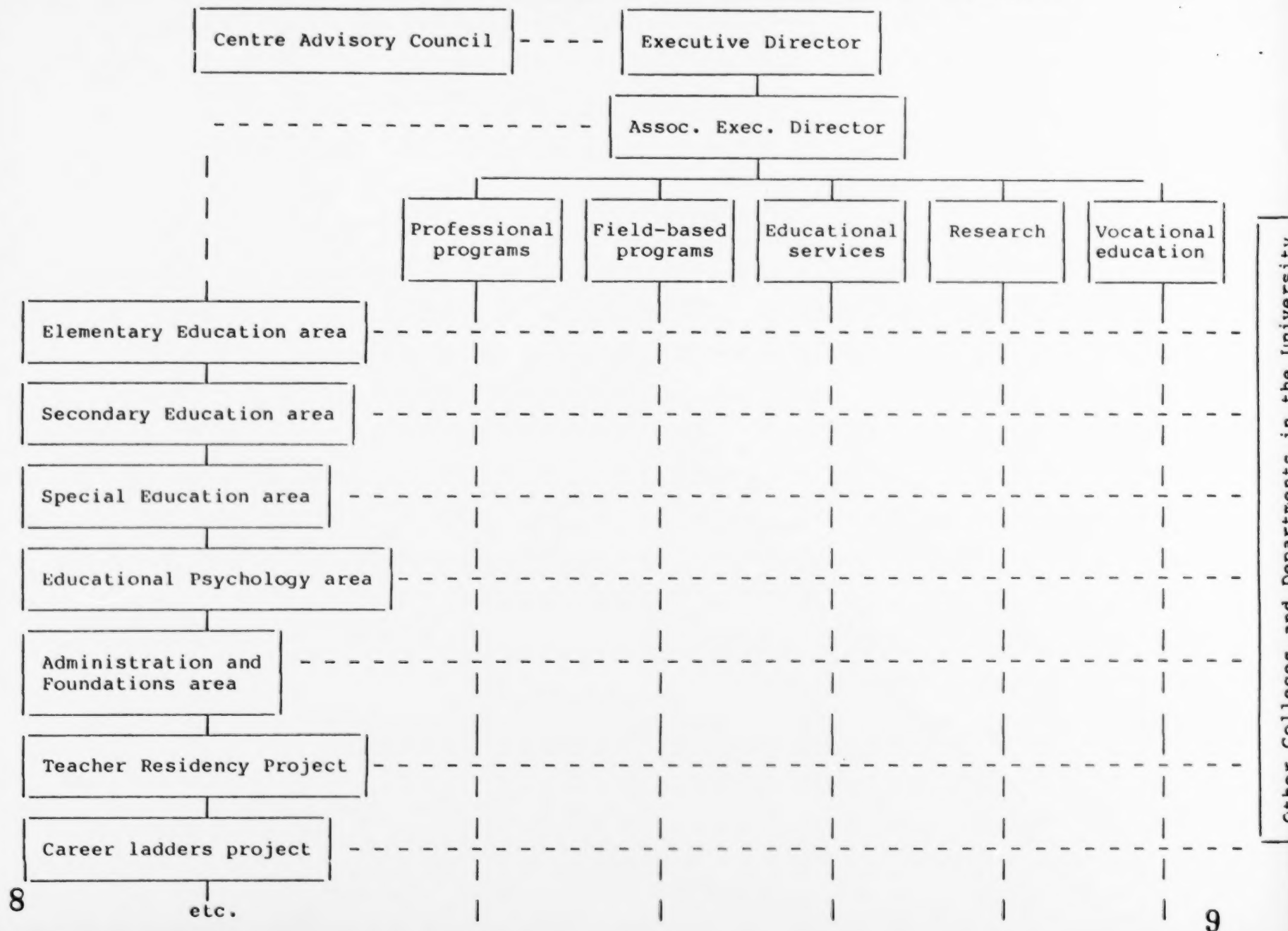
The College of Education at Northern Arizona University, Flagstaff, Arizona, had for some seventy-five years produced teachers from an undergraduate program. For the past two decades it has also produced educational administrators and psychologists and other educators in masters and doctoral degree programs. In 1984, with the publication of A NATION AT RISK and other national reports, as well as a critical report within Arizona, the college came under close scrutiny. While it was agreed that the college graduates were in great demand and were well prepared there was increasingly the feeling that there should be a change in the college so that it could be a vehicle for changing and improving the schools as they now exist and to improve the way teachers of the future are being prepared.

In early 1984 the President of Northern Arizona University, Dr. Eugene Hughes, observed what was, in his words, "a window of opportunity" at a time others saw an environment that was complex, quite uncertain, perhaps hostile in some quarters, and very diverse in what was expected of teacher preparation institutions. Acting decisively, and admittedly without full participation by faculty and administrators of the

college, he approved a proposal for the creation and implementation of a new Center for Excellence in Education (CEE) which would subsume the operations of the college and admissions involving the creation of state wide field-based programs, delivering upon request educational services to schools, developing research projects, as well as radically changing the way in which teachers were trained. Within a month after the proposal was prepared the new CEE was approved by the Arizona Board of Regents and the Arizona Department of Education and funded by the Arizona Legislature with a 33% increase over the previous year's budget of the College of Education.

The proposal contained a description of a matrix organizational structure to replace the college traditional collegial/hierarchical bureaucratic structure. This structure was implemented in July 1984. The Dean and all Department Chairs from the old College of Education structure were replaced. Since then several leadership changes have been made and further alterations of the structure have been implemented. The present structure is shown in Figure 1. Across the organization are five functional divisions each managed by a director. The Division for Professional Programs is responsible for all on campus programs and courses. At this point it is charged with

Figure 1: Matrix Structure: CENTER FOR EXCELLENCE IN EDUCATION



changing the curriculum in all areas. The Division of Field Based Programs is responsible for establishing and staffing all off-campus courses. It has seven regional field site offices, each with a coordinator and is in the process of establishing additional sites around the state. At each site masters degree programs are offered. At some sites doctoral and/or undergraduate programs are offered. The Division for Educational Services provides, upon request, consulting services and specially created courses for school districts. Additionally, it coordinates conferences held on and off campus. The Division of Research facilitates research efforts by faculty and students, supports faculty development, and carries out specific research projects. The Division of Vocational Education, added in the spring of 1986, is to prepare and disseminate curriculum materials in vocational education and develop vocational education programs.

Along the left side of Figure 1 are several areas and projects which utilize the services provided by the divisions. The areas, each with a coordinator, are permanent units consisting of faculty and academic programs. The projects are generally temporary in nature and are headed by a project leader.

The CEE was visualized from the outset as a unit with a

university-wide base. That is, every college and department in the university has a commitment to teacher education. This concept is depicted along the right side of Figure 1.

In an effort to be more in touch with its environment the CEE also has a State Advisory Council composed of leaders from business and industry, state government, school districts and educational organizations.

The extent to which this new structure has made for a more effective organization, that is, one which reaches its goals, is perhaps all in the eye of the beholder. In terms of success indicators one might point out the following:-

1. The Arizona Legislature has appropriated additional money for the CEE which is part of the continuation budget. What was a three million dollar budget for the College of Education in 1984 will be a five million dollar budget for the CEE in 1986. Also, a Joint Legislative Committee on Teacher Education, after a long series of hearings which initially were quite hostile, concluded that the CEE was doing exactly what the Legislature had hoped it would do and should "keep up the good work".

2. From a fragmented set of course and program offerings in the field (off campus), the CEE now has degree programs in seven regional centers with additional offerings elsewhere.
3. School districts are at an increasing rate requesting services from the CEE.
4. Curriculum changes have been made in all areas. In most cases these are dramatic complete renovations of existing programs. It should be noted that for at least one academic area these were the first curriculum revisions in over ten years.
5. The CEE was awarded the Showcase for Excellence Award by the American Association of State Colleges and Universities.
6. In 1985 one professor in the CEE was awarded the Burlington-Northern Foundation Prize as the best teaching professor in the university. In 1986 two CEE professors were awarded the University President's Prize as outstanding faculty members.
7. Northern Arizona University was cited by MONEY magazine as one of the "ten best buys in higher

education" in 1986. The strong programs in teacher education were cited as one of the institution's primary strengths.

From a different perspective one might note that:

1. Many faculty members in the CEE feel that the mission is not clear, that faculty morale is at rock bottom, that all the changes were cosmetic and unnecessary and that the entire operation is in disarray.
2. Faculty members from other colleges within the university believe the curriculum changes are not worth much as they still, in their view, emphasize pedagogy at the expense of academic content. They also feel that the CEE is receiving too much money and spending it unwisely while their own programs suffer.
3. Some administrators and teachers from school districts within the state feel that the CEE has not really changed anything or that, if it has changed, it has not improved anything.
4. Some administrators within the university believe that the CEE has too many administrators, has used

the additional funds unwisely, and do not share the president's view that they have a role in teacher education.

ANALYSIS

Many authors have listed the pros and cons of matrix organizational structures (1)-(6). They do tend to agree that the form allows rapid adaptation to changing environments. They also tend to agree that communication within matrix structures can be very difficult, that subordinates may have more than one superordinate, that internal conflict may be high, that the structural change alone may be assumed to be all that is needed to make the organization effective, etc. Some, if not all, of these problems exist in the CEE.

Problems perceived by faculty members may have been avoided by increased involvement of them as participants in the formation of the CEE. Organizational theorists generally agree with this concept. However, such participation takes considerable time. President Hughes believed that the "window of opportunity" would stay open only for a very short period and, therefore, acted without full participation by subordinates. Perhaps such

participation could now be accomplished by involving the faculty members in a complete review of the current mission and structure.

Peters formulated four practical principles in an emerging approach to organization. They are: managing the routine, avoiding snares, exploiting the past, and reorganizing (4). The CEE could give more attention to managing the routine tasks of the organization rather than the exceptions. Right now the faculty view that the organization is in disarray could be correct in that the organization tends to treat all problems as exceptions. Limiting the agenda of decisions needing exceptional action by establishment of routine decisions for routine activities would be helpful. By limiting the agenda of things requiring exceptional decisions the possible thrust of the organization can be enhanced. Peters offers six critical tests of possible thrust:

1. Internal achievability: Is it reasonable to expect the total renovation of a teacher education program within two years? Perhaps the establishment of short range achievable goals with some faculty consensus would increase the possibility of internal achievability.

2. Political feasibility: While support from the top (Regents, Legislators, President) has been exceptionally strong it will not continue unless results matching their expectations are forthcoming. Attention must be given to continual reporting of specific identifiable results.
3. Soundness in competitive or regulatory terms: With changes being made in other teacher education institutions in the state the CEE will need to display programs that are different from and better than those of the competitors. In a regulatory sense the accrediting agencies will need to be shown careful documentation of the outcomes produced.
4. Freshness: While viewed as a new direction in teacher education, the blooming rose of the CEE will require continual watering, fertilization and pruning if it is to continue to be viewed as a fresh idea.
5. Early wins: The CEE has shown some results in its first few months as indicated above. Results must continue to be identified and publicized to reinforce the early wins.

6. Excitement: The past year has seen a growing number of faculty members becoming enthusiastic about the opportunities afforded them by the CEE. Efforts to enrol the support of the uncommitted need to be made.

In avoiding snares Peters is particularly interested in the snares awaiting an organization applying systems management. The CEE has avoided this type of snare by default. It has yet to develop a full systems management approach. It needs quantifiable data so that there is a base of information from which decisions can be made. Peters' caution is appropriate in any case. Language should be used along with numbers to reinforce activities and decisions. Informal, often changing, settings for organizational meetings may be useful in breaking up the formality of the hierarchical arrangements that do exist even in the matrix structure.

Exploiting the past is applicable in that the former College of Education did indeed have its strengths. Relations with the client school districts were good. The college had a fine reputation in the state. Faculty relations within departments of the college were informal and mutually supportive. All of this provides roots which, if exploited and recalled, could

give support to the new concepts of the CEE.

A matrix organization as created for the CEE is an effective tool for radically bringing an organization out of an unchanging, overly stable, behind the times pattern of operation to an organization that could change rapidly enough to meet the demands of the environment. However, to remain vital the organizational structure must be continually re-evaluated and changed. The matrix form as realized in the CEE is heavily conflict laden, it is unstable and often chaotic. Some stability is needed. The question is, when should a more stable form of structure be imposed? This reorganization decision is crucial.

Finally, Peters' concept of dynamic imbalance between the needs of the individual and the needs of the institution needs attention. The dynamic tension between these two forces must be maintained for the organization to be healthy. In the CEE self-assertive faculty members can control their own destinies. This is a strength up to a point. Without some integrative function, however, the organization may be pulled in the direction favorable to certain individual faculty members. Without some integrative effort the needs of the organization to press forward towards its goals may be unmet. The CEE needs to concentrate on this

integrative function.

Currently the functional divisions have far greater power and resources than do the area and project units. So great is this imbalance of power that the areas and projects seem to be serving the needs of the functionary divisions. In a matrix organization a balance of power is needed so that the resources of functionary divisions can be better utilized by the areas and projects.

The problems of lack of communication are great. The primary reason for this is a continuous lack of understanding of the goals and structure of the CEE faculty. This may partially be overcome by some type of faculty retreat in which ideas and concerns can be freely expressed.

CONCLUSION

This paper was not an attempt to provide solutions to the problems of the CEE. It was designed to provide a description of an organization in higher education attempting to implement a matrix structure as an alternative to the traditional collegial/bureaucratic form. The matrix structure has been effective in

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helping this organization meet the demands of its environment. It also caused a wide range of new problems to develop.

The extent to which this structure should be implemented in other higher education institutions is dependent upon the nature of the external and internal environment confronting those institutions and the understanding of the leadership as to the other institutional variables that must be attended to when structural changes are made.

Certainly, if time permits, initiation of change in organizational structure, matrix or any other can be improved by involving those who will be affected by the change in the process of decision making. Attention must be given to the way people relate to one another, how their personal needs can be met while the organization meets its goals, agreement on goals, style of leadership that is most effective in the situation, etc. It is clear, however, that dramatic structural change can alter relationships within the organization creating a new instability which can be directed into new directions to accomplish new goals and possibly achieve greater effectiveness.

REFERENCES

1. GALE W. ROSE, The Matrix Idea in College Organization: the case of Bradford College. Unpublished manuscript, November 1976.
2. WILLIAM JERKOVSKY, Functional Management in Matrix Organizations", IEEE Transactions in Engineering Management. Volume 30, Number 2, 1983. pp.89-97.
3. JAMES L. BESS, University Organization. Human Sciences Press, New York, 1984, p.183.
4. THOMAS J. PETERS, "Beyond the Matrix Organization", Business Horizons. Volume 22, Number 5, 1979, pp.15-27.
5. JAMES R. YATES, "Matrix Organizational Structure and its effect upon Education Organizations". Paper presented at the Annual Meeting of the Council for Exceptional Children, New York, April 1981. (ERIC ED 208475).
6. ROBERT J. HANSON, "Potential Applications of Matrix Organization Theory for the New Jersey Department of Education". Position paper, November 1976. (ERIC ED 132691).